

# 180<sup>th</sup> WPI-IIIS Seminar

## Evolution and revolution of the eye

Eyes have undergone diverse development and play essential functions for each species. Our research shows that the hypoxia response plays an important role in the development and pathophysiology of the retina. Additionally, we discovered that the non-visual opsin OPN5, expressed in some retinal ganglion cells, functions to suppress myopia progression. Furthermore, we discovered that “chimera rhodopsin,” which is a hybrid of animal and microbial opsins, can restore vision in degenerative retinas through ectopic transduction. In this lecture, I will discuss our efforts to develop new therapeutic techniques based on diverse photoreception mechanisms while contrasting ocular development, morphology, and function.



## Dr. Toshihide Kurihara

Laboratory of Photobiology,  
Department of Ophthalmology,  
Keio University School of Medicine

Date: **Tuesday, May 9, 2023**

Time: **11:00 – 12:30**

Venue: **1F Auditorium, IIIS Building**



Contact: International Institute for Integrative Sleep Medicine, University of Tsukuba  
029-853-5857 (ext.5857) | [wpi-iiis-alliance@ml.cc.tsukuba.ac.jp](mailto:wpi-iiis-alliance@ml.cc.tsukuba.ac.jp)